

Subject:.....

Rheumatology

Immune mediated disorder characterised by Articular & extra-articular manifestation, mainly CTD!

Immune mediated

⇒ Cortison Play a role except Systemic sclerosis

⇒ Serum Ab +ve Sjogren's syndrome

⇒ relapse & remission course

⇒ more common in ♀ except Ankylosing Spondylitis

⇒ middle age

Gout

Rheumatic arthritis

Polyarthritis nodosa

Behcet's disease

⇒ more risk for infection b/c - Drugs ↓ Immune

- Complication (RF + LF)

- Cachexia "anorexia"

- DM type 1 (Autoimmune)

Causes → Theory So Not Curable just treatable

1) Genetic: HLA ass / ↑ monozygotic twins

2) environmental

3) Infection → Trigger immune system "T-lymp activity"
↳ esp viral infection

4) Supperhygiene theory → Not exposed to bact or parasite

↳ (في الساحة)

→ un-educated immune system

→ effect own cells "Autoimmune"

VISIT...

LANZAROTE
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Note Any vasculitis have

- ▷ Palpable purpura
- ▷ hemophysis
- ▷ hematuria

except Poly arthritis Nodosa -> No hemophysis

(CIP of Rheumatology)

General

from Cytokines
& Pyrogens

FAHM

↳ anorexia prolonged
= wt loss

Fahige

↳ esp (SLE)

↓
indicate relapse

Articular

Arthralgia
(Pain)

Arthritis ^{3/5}

- redness
- hotness
- Swelling
- Tenderness
- loss of function

extra Arthritic

mono
(1)

- Gout
- Sepsis
- Trauma
- hemophilia
- Atypical RA

Oligo
(<4)

- Ankylosing spondylitis
- Psoriatic arthritis
- IBD
- reactive arthritis

Poly
(≥ 4)

- RA = 28
- SLE
- Scleroderma

Any Poly Can Start by mono or Oligo

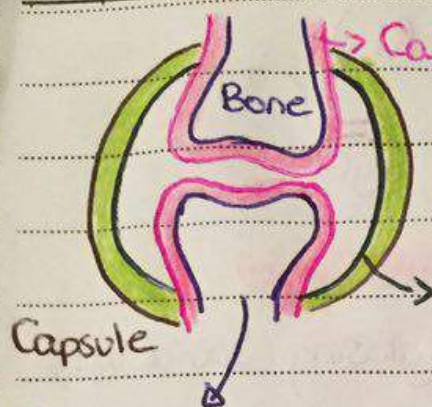
Ask about 4D

- ▷ Distribution (area - num - Symmetrical)
- ▷ Duration (acute <6 wk / Chronic >6 wk)
- ▷ Destructive (erosive or Not)
- ▷ Descriptive (Arthralgia or Arthritis)

also Duration ask about morning Stiffness

if >1 hr ex: RA

if 10-15 min ex: Osteoarthritis



→ Cartilage → Avascular "Chondrocyte only"
 → if effected → Irreversible

Synovial membrane

- macrophage + Fibroblast
- rich in BoV "from Plasma" → hyaluronic acid for lubrication
- if trauma or inflammation healed by resolution or regeneration

Bone:
 healed by
 regeneration

Non erosive Non destructive

Doesn't effect cartilage
 Only Synovial
 ex: Rheumatic Fever
 SLE

erosive & destructive

effect Cartilage
 destruction Permanent
 ex: RA

Case

♀ / mono arthritis / Pain + red + hot + swell / 3 Days back

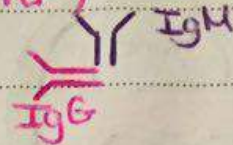
Pt risk of immune Def

→ must exclude Septic Arthritis b/c sever erosive & Destructive in Short time

Subject:

(Rheumatoid Factor RF)

IgM against FC Portion of IgG



Sero +ve

- RA 70-80%
- SLE 30%
- Scleroderma 25-30%
- Dermatomyositis
- Polymyositis
- Sjogren Syndrome 100%
- Mixed CTD
 - ↳ ex: (SLE + Sclero)

Sero -ve

- Ankylosing Spondylitis
- Reactive Arthritis
- IBD
- Whipple disease
- Psoriatic Arthritis
- ⊕ ass - Uveitis
 - Apical lung fibrosis
 - Aortic regurg

Polyarthritis

Bi-lat Symmetrical

Small Peripheral

erosive destructive

↳ except SLE

Cause tendonitis

& spare entheses

Oligoarthritis

Asymmetrical

centro-axial



enthuses
= tendon insertion
on bone

Commonly Cause

enthesitis & sever

upto rupture

Note RF +ve normally 5% in Pt 20 yrs old

& 60% in Pt 60 yrs old

+ve in infection ex: I.E, T.B, Syphilis

So Not
specific
or
sensitive

Subject:

Extra-articular



Psychosis (esp SLE)

Depression

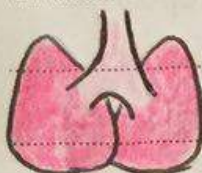
Stroke $\rightarrow$ due to vasculitis

ITs $\rightarrow$ meningitis / encephalitis
Brain Abscess



Pancarditis

(RA $\rightarrow$ Per $>$ endo)
SLE $\rightarrow$ endo most of All Rheum



Pleurisy (MC)

Pleural effusion

ILD "lung fibrosis"
"restrictive"

GIT

Dysphagia

Gastroparesis

Constipation

Back overgrowth

} Scleroderma

mesenteric infarction
 $\hookrightarrow$ vasculitis

Endocrine & other Autoimmune

DM type 1

Addison

Hashimoto's thyroiditis

Graves



Blood

• anemia of Chronic illness

• leukocytosis without infection

(except SLE $\rightarrow$ leukopenia)
if leukocytosis $\rightarrow$ infection

• Thrombocytosis

• ESR / CRP $\uparrow\uparrow$

(except SLE CRP normal)
if $\uparrow\uparrow \rightarrow$ infection

• lymphadenopathy

• hepatosplenomegaly

Late stage of RA
"After 20-30yr"

$\rightarrow$ hypersplenism

$\rightarrow$ Pancytopenia (Felty Syndrome)
in sero +ve

Note → in resp examination see Pt hand → if Rheumatic hand think Lung Fibrosis

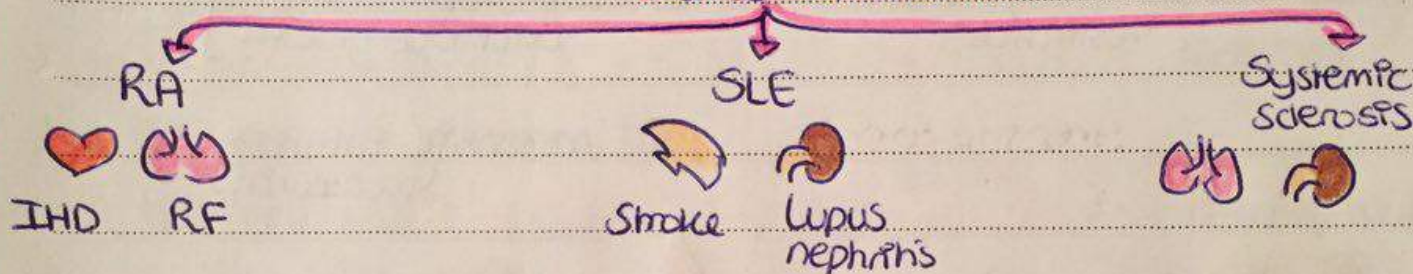
→ ILD Hx ask

- 1) Rheum → Arthralgia / Skin rash
- 2) Drug induced → methotrexate
- 3) Occupational Hx → asbestosis/pneumoconiosis

} if all 3 -ve
↓
Idiopathic

→ Any disease cause Lymphadenopathy → risk for lymphoma

Cause of Death



Inv

- No Rheumatological disease can be Dx by single blood test
- Scleroderma Dx → Skin biopsy
- Goat / Pseudogout / septic arthritis Dx → Synovial Fluid Aspiration
- Sjogren syndrome Dx → inner aspect lip biopsy

- CBC → anemia
leukocytosis
thrombocytosis
- } Pancytopenia 2 Causes
 - Felty syndrome
 - Drug induced → B.M Supp

• ESR / CRP ↑↑

• LFT / RFT

- Radiological -> Chest "Pleural effusion / lung fibrosis"
 - ↳ Failure -> Cardiomyopathy
- Joint "Cartilage Not seen by x-ray = Space"
 - if erosive & Destructive
 - > defect Cartilage "narrow joint space"
- MRI/CT Brain
- MRI / x-ray For Lumbur -> Ankylosing Spondylitis
 - ↳ Sacro-iliitis
- x-ray for atlanto-axial in RA
- Abdominal U/S -> hepatosplenomegaly
- Serological test Ab "Most imp"

Tx of Rheumatology

Non Pharmacological

- Supportive
- education about disease
- Occupational
- Vaccination
- Stop Smoking
- Stop Alcohol

Pharmacological

- NSAIDs] Pain only
- Steroid]
- methotrexate
- Sulfasalazine

Surgical

- Plastic surgery
- Arthrodesis
- Splenectomy
- in case of hypersplenism

Subject: / /

Note: (Most Common)

- MC Arthritis $\rightarrow$ Osteo-arthritis "non-inflam"
- MC Inflammatory Arthritis $\rightarrow$ RA (1%)
- MC Inflammatory Arthritis in ♀ $\rightarrow$ RA
- MC Inflammatory Arthritis in ♂ $\rightarrow$ Reactive arthritis

Note:

- All sero +ve are ANA +ve!
- Psoriatic + IBD ($\text{♀} = \text{♂}$)
- Relapse & remission according to immune state
ex: HIV Pt $\rightarrow$ CD4 count low $\rightarrow$ never effect by RA

Rheumatoid Arthritis

• **Def:** Immune mediated disorder Characterized by (Chronic Synovitis) "Articular" with synovial cell Proliferation ass ± extra-articular manifestation in a course of relapse & remission!

• **epi** → ♀ : ♂ 4:1 , middle age (40s) , 1% Population
→ (HLA DR4) → sever & Poor Prognosis
→ Cold / Smoker / ↑ Postpartum & breast feeding
(during Preg → remission "maybe b/c ↓ immune")
& has No effect on Preg & fetus!

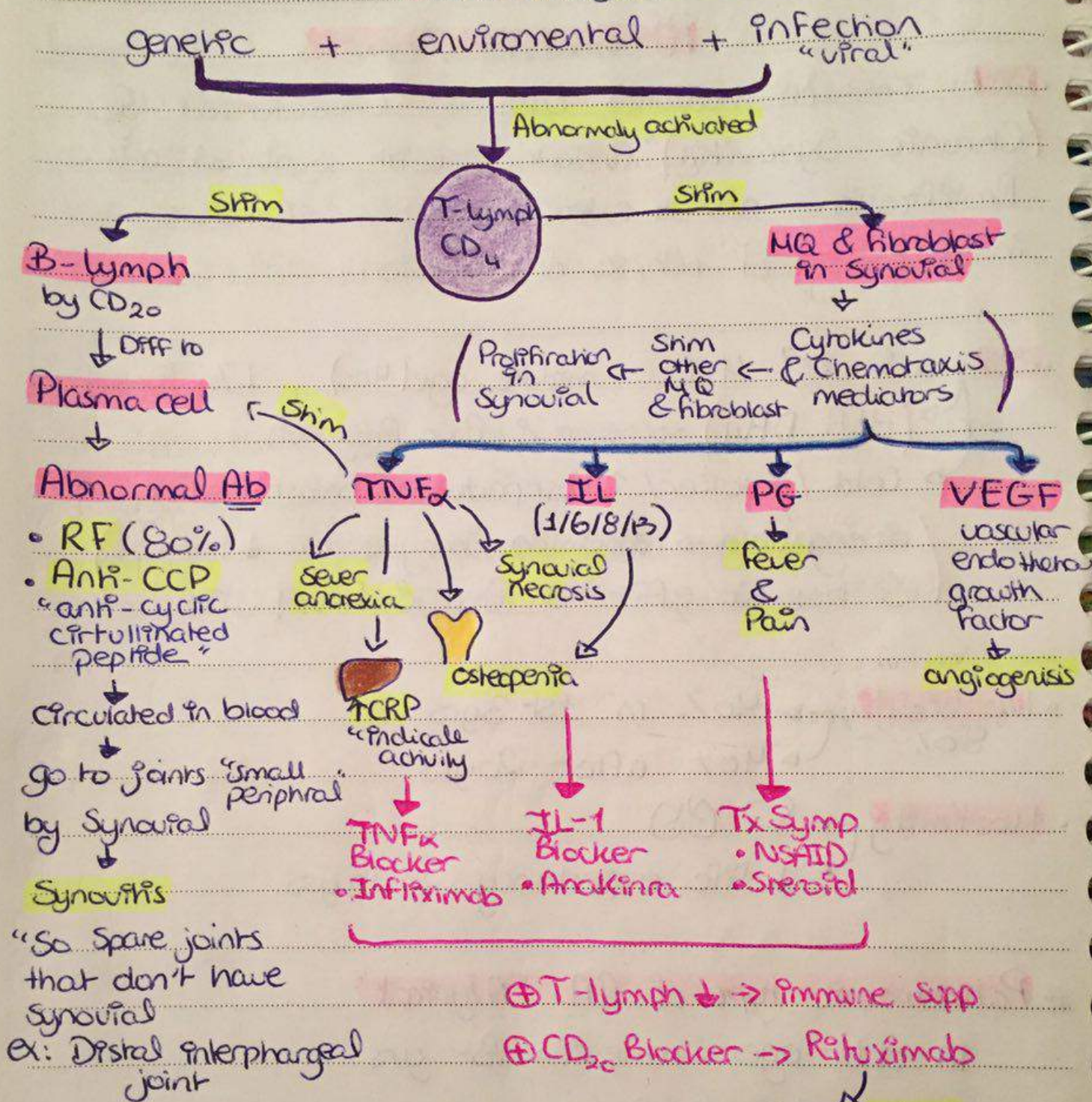
• **Morbidity** → 40% in 1st 3yrs
80% → 40% after 20yrs

• **Mortality** → ♥
→ ↓ life expectancy 8-15yrs

Palindromic type of RA "Atypical"
in older ages - remission for yrs
very good prognosis

Subject:

RA Pathogenesis



play a minor role
b/c stop B-cell
activation
but TNF α can
still stim Plasma
cell

Activity of RA is Indicated by →

- ↑ CRP from TNFα
- ↑ ESR from ↑ Ab "RF + Anti-CCP"
- anemia b/c TNFα inh erythropoietin

Blood test

- PG ↑ "Hotness / Swelling / tenderness"

Clinical

"NOT redness → if red indicate infection "Septic Arthritis"

C/P : 1) Polyarthritides → Symmetrical - small - Peripheral > central
 → erosive & destructive

2) Skin → vasculitis
 ↓
 Palmar
 erythema

in all
 BV size

→ Purpura = due to rupture of B.V under skin
 → gangrene } if vaso spasm prolonged
 → Ulcer }

- ↑ with Cold exposure → more vasospasm "Raynaud phenomena"

- Subcutaneous nodule :

↳ inflam process 2ry to RF "fibrinoid degeneration"

- Painless, firm, mobile

So ↓ Only 80% RF +ve

- not attached to skin or underlying structure

if -ve → Nodule Not appear

- Appear in site of friction

ex: Scalp, elbow, sacrum
 Achilles tendon

Nodule appear in activity "relapse"
 & indicate more Comp

if Painfull indicate infection or Ulcer

Subject:

Nodule Could be found in Internal Organ ex:

- meninges → meningitis
- myocardial → myocarditis + ♥ Block
- Pericardium → Pericarditis
- Lung → "Rheumatoid nodule + Pt exposed to pneumoconiosis

↓
Fibrosis rapidly
"Caplan Syndrome"

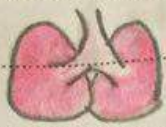
Eye → MC Keratoconjunctivitis sicca → Blindness as Comp of dryness
→ rare cause Ant Uveitis
→ Other inflam can occur → Scleritis, keratitis etc

♥ Pericarditis, myocarditis, endocarditis (MC)

👉 "RA cause vasculitis of All body BV except glomerular of nephron but cause nephrotic! without glomerular nephritis
how??

1) 2ry Amyloidosis → from Chronic inflam → production of ParaPrt → deposition of Amyloid on kidney → Abnormal Filtration of Prt → nephrotic

2) Drugs → Penicillamine } DMARDs → cause nephrotic
GOLD } even in short duration
"b/c genetic dependent"



- Pleurisy (MC)
- ILD "fibrosis"
- Caplan Syndrome

- Pleural effusion
 - Bronchitis Obliterans
- } esp in ♂



Central

- Stroke
- Psychosis
- Depression
- IHD

Peripheral

- Carpal tunnel Syndrome → from Amyloid deposition
- Mono-neuritis multiplex
 - ↳ b/c vasculitis of vasa-nervorum
 - Patchy ischemia "Asymmetrical"
- DD (DM / vasculitis / Lyme disease)



ms ischemia from vasculitis



Blood → All types of anemia

- 1) Chronic illness → ↓ Production of RBC by TNFα
→ ↓ erythropoietin sensitivity to B₀M
- 2) NSAIDs → gastritis + Peptic ulcer → Iron Def
- 3) Methotrexate = Anti-folate → megaloblastic anemia
- 4) Autoimmune → Ab against RBC → AIHA

→ Angiogenesis from VEGF

→ Splenomegaly → hypersplenism = Peltz Syndrome

→ hepatomegaly

Subject:

Pannus $\rightarrow$ from Synovitis $\rightarrow$ necrosis "central"



↑ WBC $\leftarrow$ surrounded by MA & Chronic inflam cell + Fibroblast + fibrosis
 $\leftarrow$ Produce Protease enz
 $\leftarrow$ Cartilage destruction "Irreversible"

RA could Complicate to **Sjogren Syndrome**

T-lymp deposits in $\rightarrow$ Salivary gland $\rightarrow$ dry mouth & infection
"Diffuse Dryness" $\rightarrow$ Lacrimal gland $\rightarrow$ dry eye & "
 $\rightarrow$ Vaginal glands $\rightarrow$ dry vagina & "

Dx

OLD (4/7)

Arthritis (Poly)

Arthritis (Peripheral small)

Arthritis (Symmetrical)

RF +ve

Radio "narrow joint space"
+ osteopenia

Rheumatoid nodule

Duration > 6wk, Stiffness
> 1hr

New (4/10)

Arthritis $\begin{cases} \rightarrow \text{size} \\ \rightarrow \text{num} \end{cases}$ (0-5)

Blood $\rightarrow$ RF $\rightarrow$ -ve = 0
ACCP $\rightarrow$ +ve = 2 or 3
(according to iter)

CRP + ESR $\rightarrow$ if $\uparrow$ = 1
if Not = 0

Duration < 6wk = 0
> 6wk = 1

• if 4/10 $\rightarrow$ Put in Category of RA
Follow up & Analgesia only
• if 6/10 $\rightarrow$ Definitive RA
 $\rightarrow$ Start **DMARDs**

Inv → CBC = anemia

Leukocytosis } if ↓ Felty Syndrome
Thrombocytosis } or BMM supp from Drug

→ ESR / CRP ↑

• Serology → RF +ve "70-80%"

ACCP "very specific" 99%

• Radiology → joint & Chest

• Synovial Fluid aspiration if redness to exclude Septic

• X-ray → Early = narrow joint space + osteopenia

joint → late = erosion peripheral of joint + punched out lesion + osteophyte

} Progress for

Note

RA doesn't cause 1) redness

2) Distal interphalangeal joint

3) Ant Uveitis

4) Glomerular nephritis.

Subject:

Baker cyst → tear in synovial & Capsule "esp in knee"

→ surrounded by BoV & rupture → sever L.L edema

Diff by Doppler U/S

"NOT" by D-Dimer

b/c ↑ in RA b/c

vasculitis & Clot

"red & Hot"

misDx ↓ as DVT

"from vasculitis

if heparin given in

case of Baker cyst

= ستر قاتل

DAS₂₈ "Disease activity score"

RA effect typically 28 joint

Proximal interphalangeal joint

metacarpophalangeal joint

4+4=8

4+4=8

Wrist

1+1=2

Elbow

1+1=2

Knee

1+1=2

Ankle

1+1=2

meta-tarso

phalangeal joint

1+1=2

Give Tx "methotrexate"

D.O.C 7.5mg

Follow up & see
num of joint effected

if Still 10

↑ Dose of MTx to max "25mg"

- if max dose & still → give another Tx ex: Sulfasalazine
- if 2 DMARDs & still → give Infliximab

Subject:

- RA Can effect atlanto-axial → subluxation
if endoscopy - E.T.T → Complete dislocation
→ Compression on spinal cord → Paraplegia - Quadriplegia
or even death :'
So need evaluation by x-ray (Lat cervical + oral)

- RA effect U.L before L.L → if L.L = Chronic

- Hammer toe



- Flat foot → b/c tendonitis & tear in medial longitudinal ligament

- Hallux Valgus - Hallux varus

Poor Prognostic Feature

- RF +ve / Anti-CCP +ve
- ♂ / young age
- Gradual onset
- HLA DR₄
- Extra-articular
- ↓ Complement System
- Deformity
- relapse freq ↑↑ in 1st yr of Dx

Palindromic type "Acute"

↳ Old age (60-70) / acute & severe symp "1-2 wk"
then disappear "relapse Not happen for yrs"
"Good response & Prognosis"

↳ b/c Gradual → masked Symp → present late → Deformity
↳ Poor Prognosis

Subject:

Tx

Non-Pharmacological

- rest in relapse "even if No Deformity" "RF on ∞ "
b/c if activity joint destruction very rapidly
- Physiotherapy during remission
- Change occupation "esp manual worker" $\rightarrow$ if Deformity
- Stop smoking / avoid area of smoking
- Healthy Diet "Fat diet $\uparrow$ relapse"
- education about disease & Drugs $\rightarrow$ ex: Sulfa change color of urine
- Psychological Support
- Vaccination
 - methotrexate Stop 6m before pregnancy

Pharmacological

$\hookrightarrow$ Symptomatic = Aspirin or NSAIDs

Steroid "local" = intra articular if 1 joint

Steroid "systemic" = > 2 joints

Note • before inj $\rightarrow$ take aspiration to exclude septic

b/c if steroid given in septic $\rightarrow$ need $\geq$ replacement

- NSAIDs cause peptic ulcer & Aplasia $\rightarrow$ to prevent give COX₂ inh $\rightarrow$ less risk for peptic ulcer

but $\uparrow$ risk of Cardiac arrest esp in
Old Pt & IHD!

- monitor Comp of Steroid $\Rightarrow$ Cataract - glaucoma - DM
- HTN - Osteoporosis - acne etc

Subject:

DMARDs → Stop progression of Disease

↳ all cause → B.M. Supp
↳ more with old age
↳ need 4wk to work
} but must be given once RA is Dx, if late → Deformity
↳ Prevent early Deformity but Can't Completely prevent it!

1) **Methotrexate** → D.O.C. once wk "oral or Parently"

S/E → Highly teratogenic "Stop 6m before getting preg"
↳ Severe mouth Ulcer "Painfull" → Folate ↓ severity of Ulcer but Never Prevent it
↳ Folate Def
↳ B.M. Supp
↳ Lung & Liver Fibrosis

Note may cause lung pneumonitis acutely "before fibrosis"
→ resp failure & Death

So tell Pt if Dysnea or chest pain see Dr "emergency"

2) **Sulfasalazine** → D.O.C. "less effective than MTx"

S/E → reversible Oligospermia

Pancreatitis

Interstitial nephritis

GIT upset

IF 2 DMARDs NOT effective → Infliximab

Subject:

3) **Hydroxy Chloroquine** → used in Rheum for skin manifestation
→ IF [♀ want to get Preg "can't use MTx"] as a 2nd
[♂ fertility "can't use Sulfa"] Choice

S/E → Check retina before & After Administration

medicolegal
& as a base
line

→ cause retinopathy
& Corneal Ulcer
& opacity
"every 6m-yr"
follow up

4) D-Penicillamine] S/E nephrotic syndrome

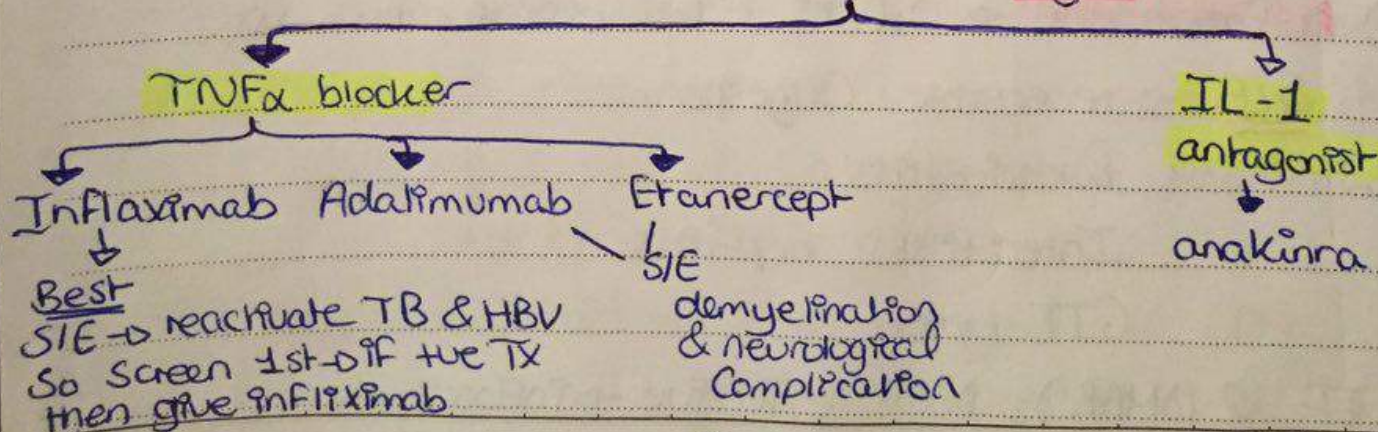
5) GOLD so ↓ use

6) Leflunomide

MOA of DMARDs

- Stop T-lymph activity
- Stop Cytokine activity
- Stop DNA
- Supp B.M

IF 2 DMARDs Don't work → use immune modulatory agent



Surgery → • Tendon transplant

• Cosmetic surgery

• Arthrodesis

• surgery for rupture
Baker cyst!

True or False

- 1) RA Characteristically lead to Ant Uveitis (x)
- 2) RA lead to renal failure by multiple mechanism of Glomerular nephritis (x)
- 3) RA effect DIP (x)
- 4) RA common lead to liver failure (x)
- 5) Anemia & inflam response indicate relapse (✓)
- 6) Pt on infliximab should inv for TB (✓)
- 7) Pt Uni L.L swelling, DVT & Baker cyst are DD (✓)
- 8) RA are flitting = migratory (x)
- 9) Insidious onset are good prognosis (x)

Subject: Systemic Lupus Erythematosus (SLE)

- MC Connective tissue disease "all sero +ve are CTD" except RA

Def: Immune mediated response that involve extra-articular & articular "extra before Articular"

☹️ Photosensitive rash ← تَلَرُ الصَّفَا
Raynaud phenomena ← تَلَرُ الشَّعَر

but can tolerate
(ماتقايست)

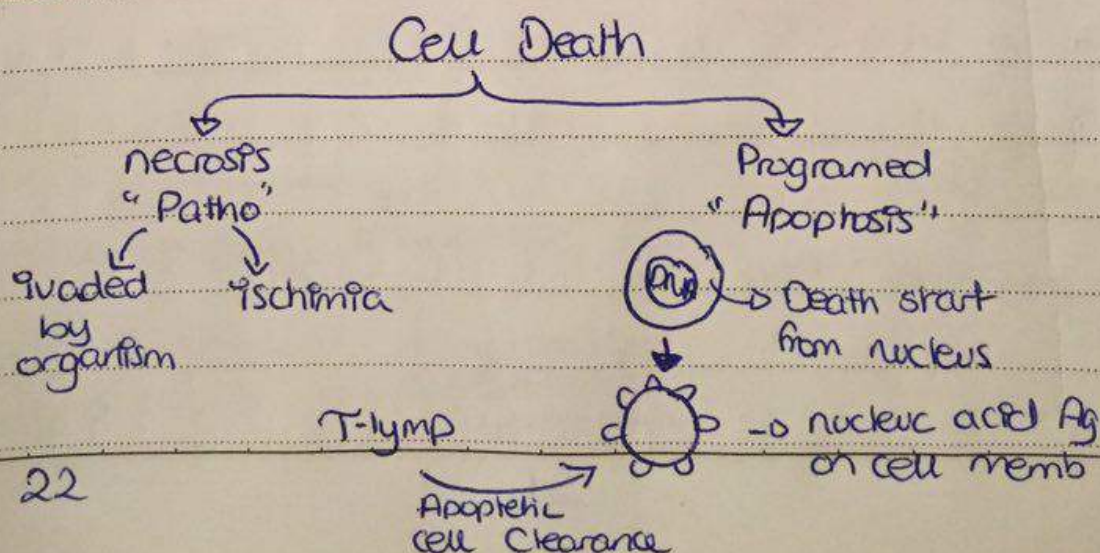
unkill
Arthritis "severe pain"

"most common presentation"

Epidemiology

- ♀: ♂ → 9:1 → so hormonal theory "estrogen"
(age: Pre-menopause)
- Prevalence → 50/100,000 → so less common than RA !
- HLA → HLA DR2 / DR3 / B8

Pathogenesis



Subject:

SLE → 3 Factors

1) T-cell genetically mutation

↳ recognise normal body cells as foreign body!

2) ↑ rate of Apoptosis by

- Physiological as Pregnancy / Sun exposure b/c Ultra-violet
↑ rate of Apoptosis by ↓ life span of skin

- infection or Drug

3) Prolonged Apoptotic cell Clearance

↳ even wks → so dead cells stay in blood

→ Abnormal T-Cell exposed to it

→ = $\text{Ab} \rightarrow \text{ANA} \rightarrow \text{Ab}$

(very sensitive = (ANA +ve))

So high titer doesn't
correlate with severity

Not specific b/c +ve in Autoimmune
hepatitis
pancreatitis / old age - etc

SLE in Pregnancy ⇒

- Not effect fertility

- ↑ risk of Abortion / Pre-eclampsia / Premature delivery

- to know baby of SLE mother is effected or NOT see Anti-Ro

if +ve ⇒ neonatal lupus erythematosus → (Cong ♥ Block & Skin manifestation)

↳ Cyclophosphamide & Immune supp

can ↑ risk of neonatal transmission

Subject:

- if She got preg $\begin{cases} \rightarrow \text{in remission} = \text{No relapse or Comp} \\ \rightarrow \text{in relapse} = \text{disease } \uparrow \text{ \& Renal Failure } \uparrow \uparrow \end{cases}$

So before getting preg See Obs & gynae & Do counselling with close follow up

- # MCCQ $\rightarrow$ SLE tend to flare up in Preg ($\checkmark$)
 $\rightarrow$ SLE can stay in remission state during Preg ($\checkmark$)

C/P general (FAH M + Fatigue) + (3S/2B/1K)

- Fatigue always present, if $\uparrow \rightarrow$ just before relapse
so $\uparrow$ dose of steroid

! also Anti-dsDNA $\uparrow$ before relapse

- Fever - wt loss $\rightarrow$ during relapse

SKIN

- malar rash so Bilat on face, spare naso-labial fold
Flat or raised - healed without scar
could be itchy or painful

- Subacute so circular lesion $\begin{cases} \rightarrow \text{Peripheral erythema raised} \\ \rightarrow \text{central Pale} \end{cases}$
Cutaneous
Lupus

- heal without scar / No scales or pigmentation
- appear any part of body

- Discoid so circular raised patch & erythematous
Lupus central hyperpigmented dots "follicular hypertrophy + Scales"
heal with scar

& if in scalp $\rightarrow$ Cicatricial Alopecia "Irreversible"

Photo-sensitive

Subject:.....

- Livedo reticularis "less common"

↳ superficial dilated veins

- Raynaud phenomena (40% +ve)

Skeleton

• Arthritis - "Poly / symmetrical / peripheral / small / U.L > L.L"

↳ - non erosive - non destructive

↳ - migratory arthritis

Deformity from juxta-articular "tendon damage"

→ reversible "Jaccoud's arthropathy"

Serosa sac

↳ Pleura = Pleurisy (MC) / Pleural effusion / ILD "less common than RA"

↳ Pericardium = Pericarditis / myocarditis / endocarditis

Note Diff btw RA + SLE → SLE effect endocarditis more than RA & other Rheumatological disease

but in SLE "Pericarditis" MC cardiac manifestation

↳ Peritoneum = Peritonitis / mesenteric ischemia "vasculitis"

Brain → 2S "psychosis / seizure" } Not caused by metabolic disturbance or Drug induced

↳ meningitis / Stroke

↳ mononeuritis multiplex

↳ Peripheral neuropathy

Blood = Pancytopenia

- anemia "Autoimmune"
- leukopenia - or normal but lymphopenia < 1500
- Thrombocytopenia

Lymphadenopathy & hepatosplenomegaly

Kidney $\rightarrow$ All 6 types of glomerulonephritis
MC "diffuse proliferative"

- ANA precipitate $C_3 + C_4$ in glomeruli "↓ in blood"
- $\rightarrow$ effect kidney $\rightarrow$ Abnormally irregular RAAS system
- $\rightarrow$ HTN $\rightarrow$ Progressive $\rightarrow$ malignant HTN $\rightarrow$ Death :! ("accelerated" HTN)

How to know renal involvement?

Anti-Smith indicate sever renal involvement

Tx by steroid + Cyclophosphamide

IF -ve $\Rightarrow$ every Follow up $\rightarrow$ BP measure
 $\rightarrow$ urine analysis "micro-Albumin urea"

earliest
sign
of
renal
involvement
in
(SLE/HTN/DM)

- Normal P_{it} in urine = < 30 microgram
- micro-Albumin urea = $30 - 300$ mg/24hr
- macro-Albumin urea = > 300 mg/24hr

Note Cyclophosphamide

S/E $\rightarrow$ hemorrhagic cystitis

BoM Supp + hair loss

$\rightarrow$ So Change to
"mycophenolate"

Both $\uparrow$ Prognosis

Subject:

Drug induced SLE $\rightarrow$ good prognosis + reversible

HIP $\Rightarrow$ H = **Hydralazin** $\rightarrow$ MC

I = **Isoniazid**

P = **Procinamide** - **Phenotylon** - **Chlorpromazine**

2M $\Rightarrow$ **Methyl-Dopa** + **minocycline**

$\text{♀}:\text{♂}$ nearly equal

renal & brain $\rightarrow$ not effected $\rightarrow$ good Prognosis
"cause of"
Death

b/c kidney normal $\rightarrow$ Complement Not low

ANA +ve, Anti-histone +ve, Anti-dsDNA -ve!

So Anti-dsDNA if -ve doesn't exclude SLE $\Rightarrow$ Drug induced

Dx Criteria "4/11"

Skin $\rightarrow$ malar rash - photosensitive - oral Ulcer - Discoid rash
"painless"
 $\hookrightarrow$ if infected = Painfull

Skeletal $\rightarrow$ 2 small peripheral joints "Arthritis"

"all Poly can start by mono or Oligo"

Serositis $\rightarrow$ Pleurisy - Pericarditis

Dx by $\rightarrow$ ECG $\Rightarrow$ Diffuse ST segment elevation "pericarditis"

$\hookrightarrow$ friction rub $\rightarrow$ on Auscultation

$\hookrightarrow$ (ask Pt to stop breathing $\rightarrow$ if Still =  Pericarditis
 $\rightarrow$ if Stopped =  Pleurisy)

Brain $\rightarrow$ Seizure - psychosis "Not caused by Drug or metabolic"

Subject: / /

Blood $\rightarrow$ anemia

Plt $< 100,000$

WBC $< 10,000$ or lymphocyte < 1000

or
pancytopenia

Kidney $\rightarrow$ RBC cast or Prt

HTN new onset

Serology $\rightarrow$ ANA $\rightarrow$ Point

[Anti dsDNA - antiphospholipid - Anti-sm] $\rightarrow$ Point

Note Anti-phospholipid 2 types

1) Cardiolipin Ab

2) Lupus anti-coagulant

↑ risk
of DVT
& Abortion

(anti-coagulant & cause thrombosis??)

How?

b/c in vitro $\Rightarrow$ $\uparrow$ APTT falsely high

& VDRL "STD Ab" false +ve

Note

• mixed CTD = Anti-RNP or ENA "extractable nuclear Ag Ab"

$\hookrightarrow$ SLE + other CTD "Systemic sclerosis - Sjogren's - etc"

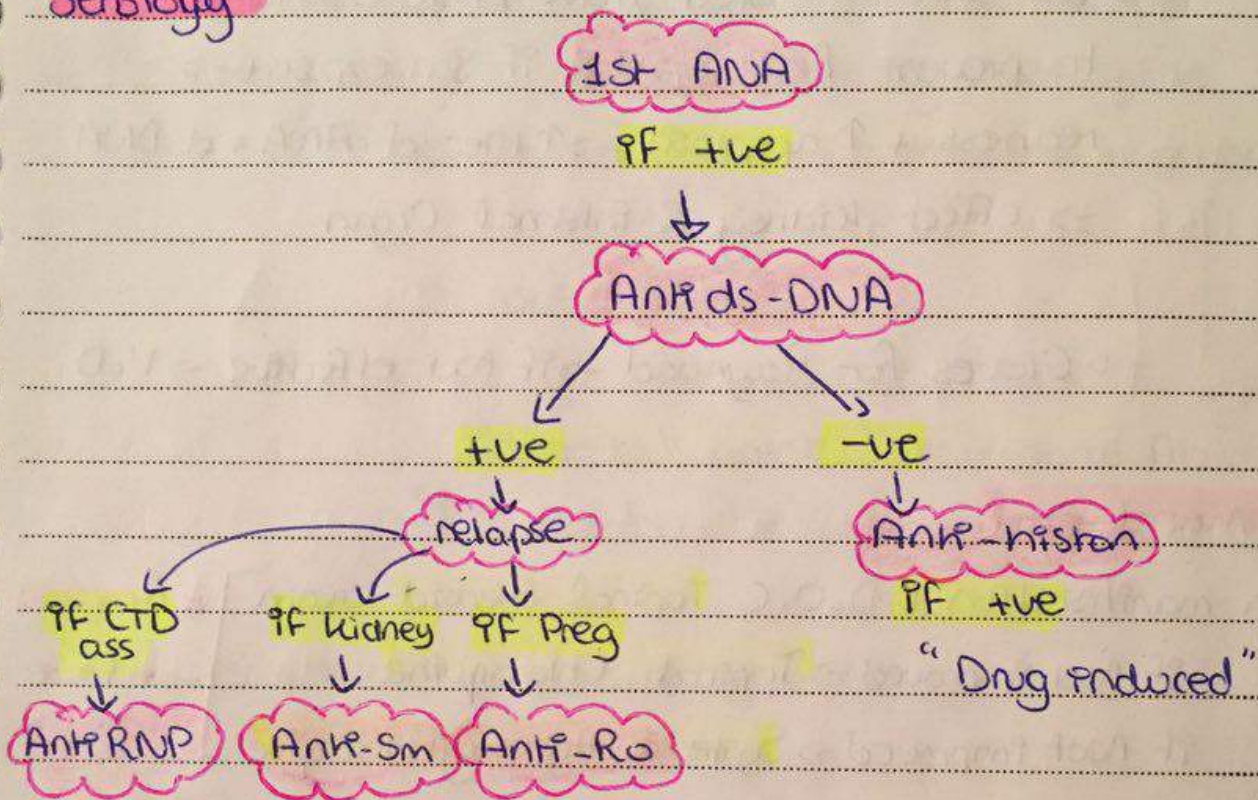
• Rheumatoid lupus $\rightarrow$ Over lap btw RA "Not CTD" + SLE

$\hookrightarrow$ Anti-CCP +ve + Anti dsDNA +ve

(rare)

Inv → CBC = anemia, ↓ Plt, WBC ↓
 → ESR ↑, CRP normal → IF ↑ = infection
 → RFT, LFT

Serology



Note Familial hypocomplementemia

- ass with HLA DR₂, DR₃, B₈
- genetically have ↓ Complement
- So if SLE Pt Complement was low → see other family members complement count "even if free from SLE" to exclude Familial cause

Subject:

Tx → Non Pharmacological

- Stop smoking - Alcohol - vaccine - CBT therapy
- educate about disease
 - Sun block = Protect from photosensitivity to prevent flare up b/c if sun exposure → redness + ↑ apoptosis → ↑ tit of ANA + dsDNA → effect kidney & internal organ

→ Gloves for Raynaud → if Not effective → V.o.D

Pharmacological

- Skin manifestation → D.O.C Topical steroid cream
 - if Not improved → Topical Chloroquine
 - if Not improved → Systemic HydroxyChloroquine

↓ Apoptosis
→ ↓ Flare up

Note HydroxyChloroquine know used in all cases of SLE

→ Prolong remission + prevent relapse

but SLE effect retina + cornea so follow up by ophthalmologist

- Steroid → but Hydroxy Chloroquine ↓ use of steroid
↓ Cushing SLE

- renal involvement → high dose steroid + cyclophosphamide
+ mycophenolate

- HTN → ACEI or ARBS (if ACEI is C/I)
or nitrate in emergency

Subject:.....

Pregnancy $\rightarrow$ Aspirin + low molecular heparin
"even if Anti-phospholipid Ab is -ve"

Dapsone $\rightarrow$ skin manifestation

Refractory case "to cortisone + hydroxy Chloroquine"
use immune supp "Azathioprine + cyclosporine"



if not effected



Biological agent "monoclonal Ab"
"Rituximab - Belimumab"

Anti-coagulation in anti-phospholipid syndrome

Hx Presentation of SLE

- DVT - Thrombosis anywhere
- Alopecia - Skin rash
- Arthritis - Arthralgia
- Fatigue - Dysnea

Subject:

Systemic sclerosis

Scleroderma
↓
skin only

Systemic Sclerosis
↓ ↓ ↓
GIT renal lung

- ♀ present with raynaud for yrs before any skin changes
" 95% of systemic sclerosis have raynaud before skin
& 100% After skin changes "عكس الاتجاه"
- No HLA association ♀:♂ 4:1

Pathophysiology

T-lymph abnormally activated → inflam process "edema" acute
in skin

→ Chronically stim Mφ + Fibroblast → Fibrosis "hard skin"
"Collagen"

so by microscopic examination

↳ elastic fiber of skin are replaced by fibros tissue
& T-Lymp + Fibroblast

C/P

- Thick shiny tight skin stretched on bone → can't make fold
- inflam cell precipitate in areas & areas free
↳ hyper & hypopigmented "Salt & pepper appearance"

Note Raynaud normally < 15 min

in CTD → SLE, scleroderma - etc → > 1hr

so ischemia "sever" → gangrene - Ulcer - Autoamputation of fingers

Subject:

- Finger Fibrotic "Sausage like"
- Face $\rightarrow$ peaked nose - micro - stomia - telangiectasia
- Subcut Calcification & Ulceration
- Peri-angul telangiectasia $\rightarrow$ DD [Scleroderma
"small dilated capillaries"
around nail SLE
Dermatomyositis]

How to know systemic involved?

- 1) measure BP
- 2) Auscultate Pulm area $\Rightarrow$ loud S₂ = Pulm HTN
- 3) Auscultate lung $\Rightarrow$ fine base crackles "lung fibrosis"
- 4) Ask About Dysphagia

Systemic

- Arthralgia - Arthritis but NOT upto deformity
- GIT



early satiety + bloating

water melon b/c telangiectasia $\rightarrow$ can bleed $\rightarrow$ iron Def anemia



$\rightarrow$ Pseudo-obstruction $\rightarrow$ $\downarrow$ motility b/c sm.ms don't work $\rightarrow$ constipation

$\rightarrow$ Bacteria over growth $\rightarrow$ b/c food $\uparrow$ intestine $\rightarrow$ Diarrhea
"liquefaction"

$\rightarrow$ Fecal incontinence

Subject:



oesophagus tube like $\Rightarrow$ Dysphagia
cardiac sphincter open $\Rightarrow$ GERD



Sclerosing in biliary system & jaundice "Not common"

Resp



$\rightarrow$ Sclerosing of lung B&V $\rightarrow$ Dysnea + fibrosis

$\rightarrow$ Pulm HTN

$\rightarrow$ limited type $\rightarrow$ (late) $\rightarrow$ Pulm HTN

$\rightarrow$ diffuse type $\rightarrow$ (early) $\rightarrow$ lung fibrosis



$\rightarrow$ restrictive cardiomyopathy b/c sclerosis of $\heartsuit$
 $\rightarrow$ Diastolic heart failure



Sclerosing of Glomeruli $\rightarrow$ $\downarrow$ Blood to kidney

$\rightarrow$ $\uparrow$ Aldosterone $\rightarrow$ severe HTN "Die from Hge in brain & encephalopathy"

$\downarrow$
hypernatremia
hypokalemia
metabolic Alkalosis

$\downarrow$
Tx by ACEI

Note

- ACEI only medication improve prognosis & $\downarrow$ mortality rate in scleroderma
- ACEI is C/I in Preg b/c teratogenic & $\downarrow$ Perfusion
except if $\neq$ Systemic Sclerosis

Subject:

Types of Disease

1) Limited sclerosis (70%)

effect face, below elbow & knee

⊕ Anti-centromere Ab

"sensitive 60% + specific 100%"

so if -ve take biopsy / if +ve Dx

⊕ CREST syndrome → Calcinosis

Raynaud phenomenon

Esophageal dysmotility

Sclero-dacty

Telangiectasia

Good Prognosis

2) Diffuse sclerosis (30%)

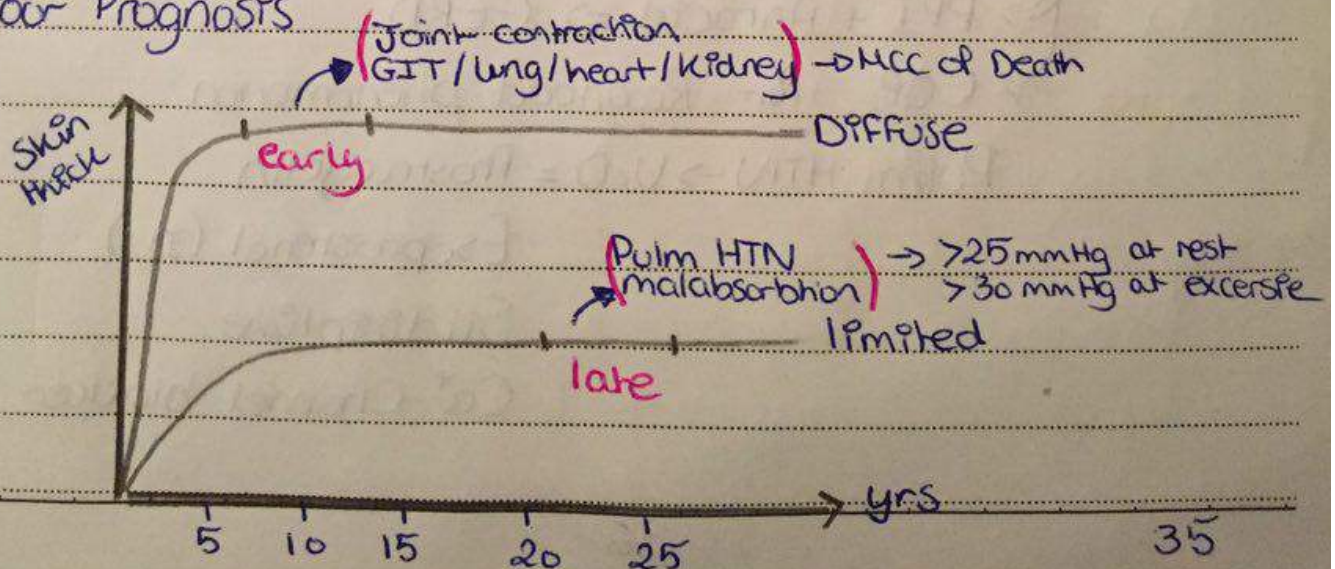
effect all body

⊕ Anti-Topo isomerase Ab (توبوا إلى الله)

sensitive 40% + specific 100%"

- renal involvement & more systemic

Poor Prognosis



3) **Scleroderma**

"Skin without systemic

- Morphea $\Rightarrow$ localized thick shiny patch
- Linear $\Rightarrow$ maybe progressed from morphea
- En coup de sabre $\Rightarrow$ linear on face 
- Hemifacial  $\Rightarrow$ mimic facial Palsy

Inv. Ab $\rightarrow$ Anti centromere - Anti-Topoisomerase

$\rightarrow$ ANA +ve 80%

$\rightarrow$ RF +ve 30%

- Complement normal $\rightarrow$ IF low $\Rightarrow$ mixed CTD "Anti-RNP"
- or $\rightarrow$ Post Streptococcal GN
"other disease $\downarrow$ Comp"

Dx test $\Rightarrow$ Skin biopsy

Tx $\Rightarrow$ No Tx STOP progression of disease

except ACEI

Sympt Tx $\Rightarrow$ Ab + VIT B₁₂ $\Rightarrow$ blind loop syndrome $\rightarrow$ PPI + Antacid $\Rightarrow$ GERD $\rightarrow$ CCB for Raynaud phenomenonPulm HTN $\rightarrow$ U.O.D = Prostacyclin

Esoprosthenol (IV)

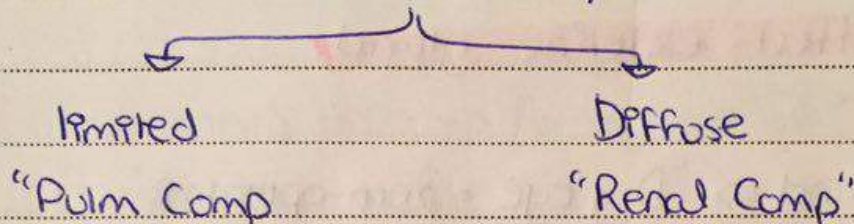
Sildenafil

Ca⁺ Channel blocker

Subject:

- Steroid + D-Penicillamine + GOLD $\rightarrow$ not effective
- Methotrexate $\rightarrow$ $\downarrow$ Scler Progression $\times$

Cause of Death



Keywords

- Dysphagia + Raynaud = Systemic sclerosis
- Dysphagia + anemia = Plummer-Vinson syndrome
- Dysphagia + wt loss + fever = infection
- Dysphagia + Cachexia = Malignancy

Subject:

Sjogren's Syndrome

لا دموع بعد الآن

Pny

(Disease on its own)

2ry

ass: RA, SLE, Sclero etc
after 10 yrs

autoimmune effect exocrine gland



Lacrimal gland $\Rightarrow$ "Dry eye = xero-ophthalmia"

- Keratoconjunctivitis sicca
- burning + gritty sensation "could be corneal abrasion"
- recurrent eye infection "b/c tear anti-microbial"



mouth "Salivary gland" Dry mouth "xerostomia"

- Difficult swallowing "Dysphagia"
- recurrent mouth infection "b/c saliva anti-microbial"
- Dental caries
- Parotid enlargement

Dry vagina $\rightarrow$ $\downarrow$ secretion

- recurrent vaginal infection
- Dyspareunia

- Arthralgia - Raynaud phenomena

- Lymphadenopathy $\rightarrow$ 40 fold can transform
to lymphoma

/ /

Note 3 Autoimmune + Lymphoma

1 = Cellac

2 = Sjogeren

3 = Hashimoto's Thyroiditis

Inv Schirmer's test $\Rightarrow$ for eye 

Saxon test $\Rightarrow$ for mouth

Ab $\Rightarrow$ $\left. \begin{array}{l} \text{Prv} = \text{Anti-Ro (70\%)} \\ \text{2nd} = \text{Anti-La (30\%)} \end{array} \right\} \text{if both +ve} \Rightarrow \text{Dx}$
no need for biopsy

RF +ve 100% ✓ ANA 70%

Dx $\Rightarrow$ Lip & Salivary biopsy

Tx $\rightarrow$ Artificial hear

Free sugar gum $\rightarrow$ Stim salivary gland

Pilocarpine $\rightarrow$ " " "

K-Y gel for Dry vagina

Screen for Lymphoma

Subject:

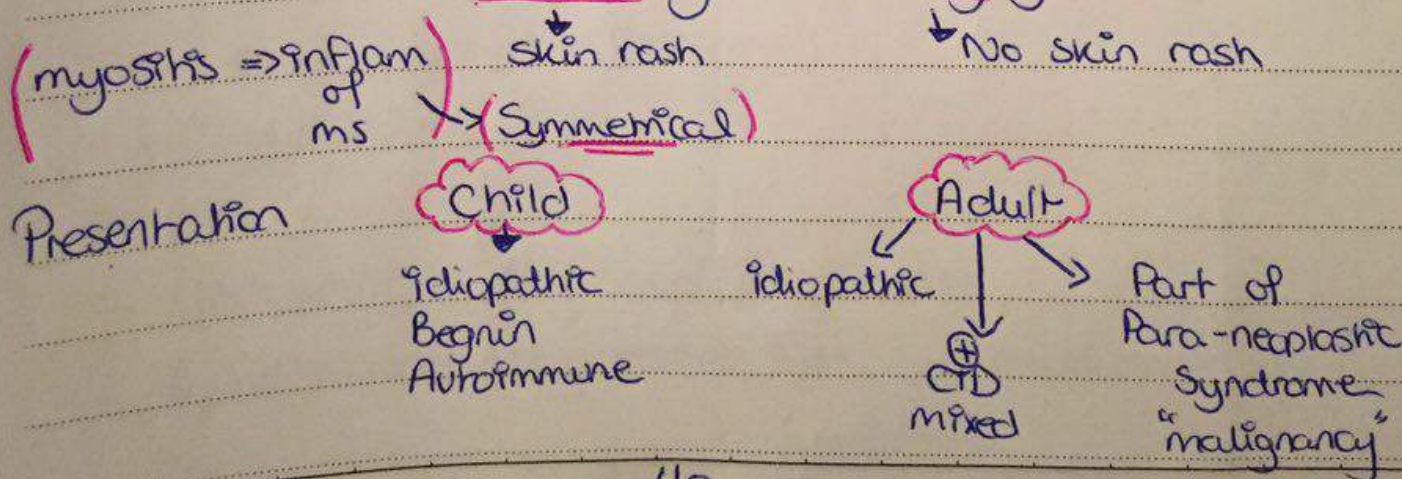
Proximal ms weakness

- Can't do her hair
- Can't do any activity above level of & head
- Can't stand from sitting position
- Can't get up stairs

DD

- UMN/L "Stroke" → uni lat at presentation
- Myasthenia graves → ⊕ Phos at end of day
- Lambert - Eaton syndrome ⊕ Chronic smoke - hemoptysis
- Hypokalemic Paralysis ⊕ Arrhythmia + Constipation
- Thyrotoxic ⊕ wt loss + tremor + Diarrhea + heat intolerance
- Hypothyroidism ⊕ Sleep + Fatigue
- Cushing ⊕ wt gain + acne + Hx of steroid use
- DM ⊕ Polyurea + polydypsia + Polyphagia
- Dermatomyositis - Polymyositis

Dermatomyositis & Polymyositis



Subject:.....

Skin manifestation in Dermato - Poly not prominent

- Photo sensitive
- V sign over ant Chest 
- Shawl sign "شال" on shoulder
- Heliothropic rash around eye & cheek "DD SLE"
- Gottron's papule "round red over knuckles" 
- Calcinosis cutis $\rightarrow$ Ca^{+} Deposition
 $\downarrow$
maybe ulcerated & 2ry infection "Painful" (pathognomonic)

Systemic manifestation

FAHM

ms weakness, pain not typical "L.L > U.L"

(
no weakness
+ morning stiffness
+ pain
Polymyalgia Rheumatica
"U.L > L.L"
Calc.)



resp ms weakness $\rightarrow$ Diaphragm $\rightarrow$ Dysnea

DD GBS



esophagus $\rightarrow$ Dysphagia

{
DD Dysphagia + Proximal ms weakness
GBS
Myasthenia graves
Thyroid disorder
}



(all can be Tx by Ig)

Subject:



uncommon result in cardiomyopathy

Raynaud's $\rightarrow$ $\oplus$ Dermatomyositis

ILD $\rightarrow$ $\oplus$ Polymyositis

INV

- CK $\uparrow$
 - LDH $\uparrow$
 - EMG "abnormal" $\rightarrow$ to DIFF btw ms or neuro
 - Serology $\rightarrow$ ANA +ve 60%
 - $\rightarrow$ Anti-synthetase $\rightarrow$ in polymyositis
 - Ms biopsy $\rightarrow$ Dx
- DD** Statin cause myocytls
CK $\uparrow$, LDH normal

Tx

High dose steroid "as early as possible"

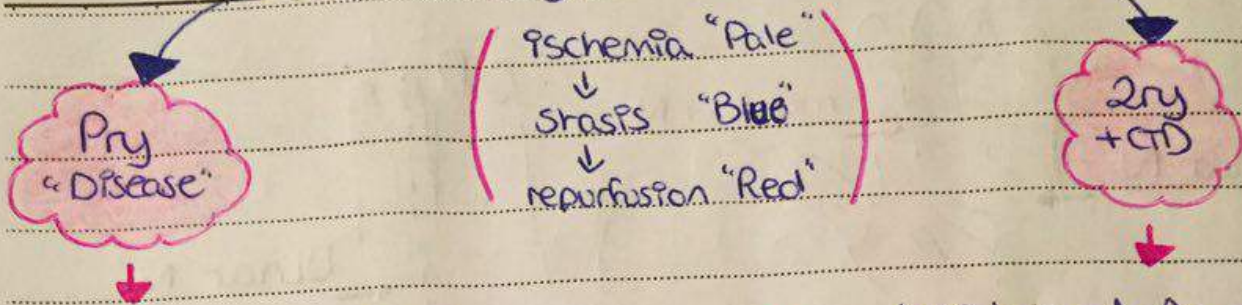
Immune supp if Not respond

I.V Ig

CT with contrast $\rightarrow$ Abdomin
 $\rightarrow$ Chest
 $\rightarrow$ Pelvis] to exclude malignancy

Subject:

Raynaud Phenomena



- Bi-lat symmetrical
- < 30yrs
- Duration of pain (< 15min)

(less Complication)

- RF -ve
- ANA -ve
- No Periangual telangiectasia
- ♀ ↑

• Tx CCB "Nifedipine"

- Unilateral Asymmetrical
- > 40yrs
- Duration more (> 1hr)

(more gangrene / Ulcer)
Autoamputation ↑

- RF +ve
- ANA +ve
- Periangual telangiectasia +ve
- ♀ or ♂ (according to CTD)

• Tx CCB + V/D
TUC

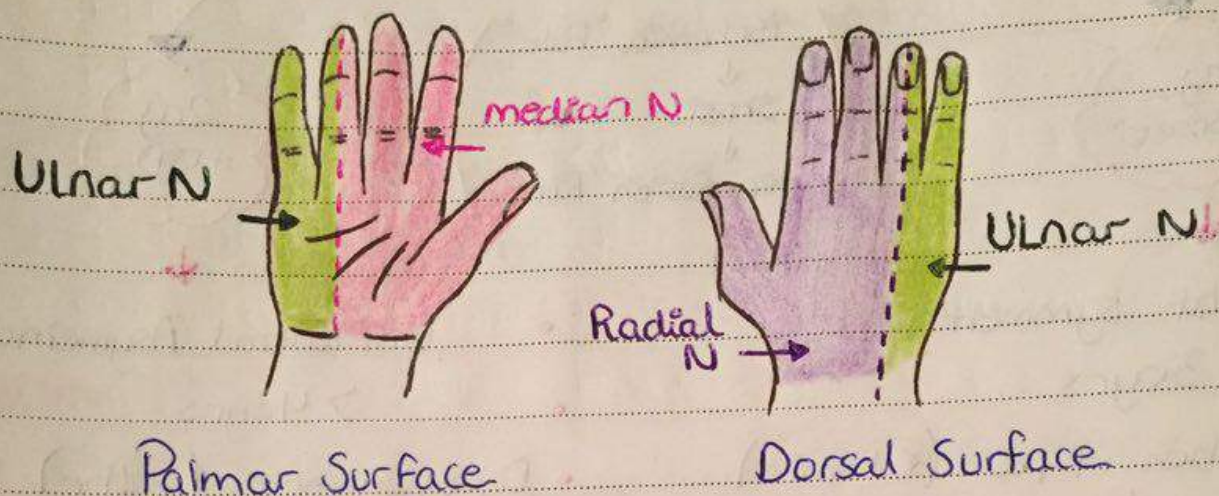
2ry could be to

(RF ANA -ve)

- Vibrating tools (Drill)
- Drugs = OCP - ergot - B-blocker
- Cryoglobulinemia
- Infection

Subject:

Carpal Tunnel Syndrome



Carpal tunnel causes "ARM PIT"

- A Amyloidosis - Acromegaly
- R Rheumatoid Arthritis
- M Myxedema - multiple myeloma
- P Pregnancy
- I Idiopathic $\rightarrow$ MCC
- T Traumatic + DM

Compression
on
Median N

C/P

Pain - numbness - tingling - paraesthesia in $3\frac{1}{2}$ fingers
at night more than morning

$\downarrow$ by flicking motions "لوي لوي"

electrical sensation when tapping on mid point at wrist

"Tinel's Sign" $\rightarrow$ Not accurate b/c maybe done wrongly
or Pt thin $\rightarrow$ false +ve

Subject:

- Phalen's test $\rightarrow$ parasthesia in one min $\overline{7r}$
- wasting of thenar eminence b/c supplied by median N
 - $\hookrightarrow$ 1) Abductor Pollicis brevis
 - 2) Flexor Pollicis brevis
 - 3) Opponens Pollicis

Inv $\rightarrow$ nerve conduction study $\rightarrow$ Delay in velocity & Potency

Tx **WRIST** $\rightarrow$ W = wrist splint at night 
+ TUC R = rest

I = incision decompression "if irreversible or idiopathic"

S = Steroid "if inflam or trauma"

T = Take diuretics "relieve edema"

Note Don't give steroid if cause idiopathic b/c No inflam $\rightarrow$ So Not effective
& risk for osteonecrosis from repeated inj!

Subject:

Sero - negative

- HLA B₂₇
- RF -ve
- Asymmetrical + Orig < 4
- Sacroiliitis → Back Pain
- enthesitis → Achilles tendonitis
→ Planter Fasciitis

Extra articular

Ant Uveitis

Apical fibrosis

Aortic regurg

Erythema nodosum

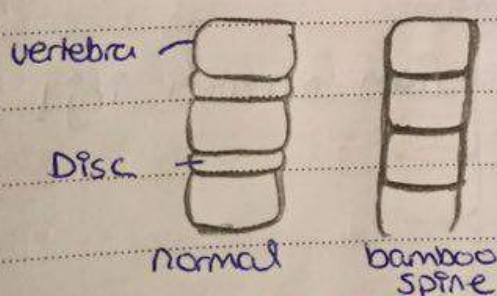
"Ankylosing Spondylitis"

closed joint by fibrosis

→ vertebra → inflam

Idiopathic inflammation of intervertebral disc → healed by fibrosis & Calcification → fusion of vertebra

Case (♂ 30yrs + morning stiffness + Pain in back)
Pain after rest, relieve by movement



Loss of Normal curve of vertebra

→ Start = Lumbar → Lordosis

↓
then thoracic "fixation"

↓
at costo-vertebral junction

↓
inflam → can't expand

↓
(restrictive lung expansion)

↓
then Cervical "kyphosis"

Restrictive pattern in Pulm Function test =>

- 1) Costo-vertebral junction fusion
- 2) Lung Fibrosis "Apical"

Dysnea in Ankylosing Spondylitis

- 1) Restrictive lung pattern
- 2) ♥ Failure b/c AR
- 3) anemia of Chronic illness

Extra-articular manifestation

- Ant uveitis
- Apical lung fibrosis
- nephrotic syndrome
- Carpel tunnel
- Prostatitis
- AR, MR, AVN block
- Pericarditis, myocarditis
- Peripheral neuropathy
- DM

Examination

- Precardial ex -> AR
- tell Pt to stand on wall => Lordosis
- exam in neck -> neck stiffness "without fever or rash"
- Shober test -> by tape measure from vertebrosacral junction & up 10 cm "Pt standing"
then tell Pt to bend forward
-> normally ↑ > 5cm b/c ↑ intervertebral disk
but Ankylosing < 15 cm not more b/c stiffness

Subject: / /

Inv = anemia, $\uparrow$ ESR + CRP

RFT & urine analysis $\rightarrow$ nephritic

Echo + ECG $\rightarrow$ for $\heartsuit$ Comp

x-ray $\Rightarrow$ lumbar $\rightarrow$ fusion of joint "bamboo spine"

$\Rightarrow$ Lung $\rightarrow$ Fibrosis

x-ray early could be normal $\rightarrow$ Do MRI

HLA B₂₇ $\rightarrow$ +ve 95%

so if -ve doesn't exclude "used for screening"
if Atypical back pain

Tx avoid rest

same Tx of RA $\rightarrow$ DMARD (given as early as possible)

Infliximab $\rightarrow$ $\downarrow$ Back Pain

Note

DD of Back Pain

- Disc prolapse $\rightarrow$ $\uparrow$ with cough + sneeze + constipation
- Spasm
- Spinal stenosis $\rightarrow$ $\downarrow$ by leaning forward
- Ankylosing Spondylitis $\rightarrow$ $\uparrow$ rest - $\downarrow$ movement

Note Psoriatic arthritis mimic ankylosing spondylitis
exp except psoriatic $\Rightarrow$ Uni-lat Asymmetrical
& Ankylosing $\Rightarrow$ Bi-lat Symmetrical

Subject:

Psoriatic arthritis

Psoriasis

Common disease 1%

↳ Skin proliferation & erythema
↳ Arthritis

- Arthritis start even before skin manifestation
- Skin manifestation severity doesn't correlate with severity of Arthritis
- 10% of Pt with psoriasis → Arthritis

Types

- 1 = Asymmetrical Oligoarthritis "MC"
- 2 = Sacroiliac "Back Pain = mimic Ankylosing"
- 3 = Rheumatoid like Polyarthritis → diff by RF
- 4 = DIP joint → (RA cut)
- 5 = Arthritis mutilans = telescoping finger

Can Present with nail pitting - ridging - oil drop

X-ray Finding ⇒ Pencil in Cup appearance

⇒ Ivory phalanx

Tx AS RA

Subject:

Enteropathic arthropathy

- Arthritis + IBD
- Oligo-peripheral arthritis → correlate with Diarrhea
- Sacroiliitis → Not correlate with Diarrhea

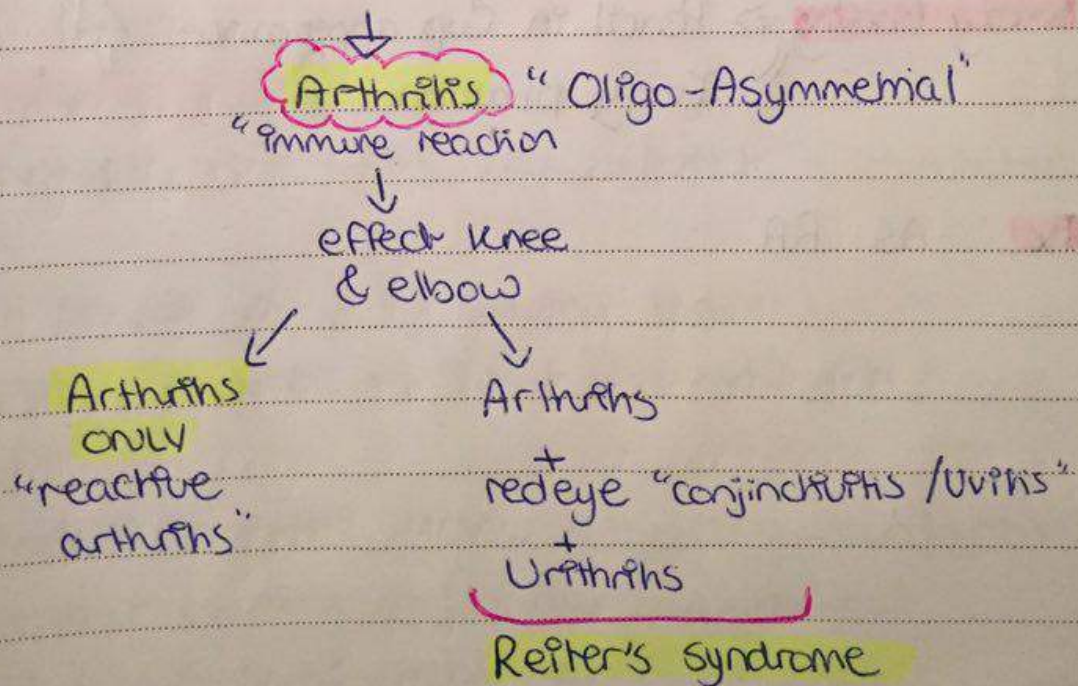
Tx of IBD → relapse → steroid

remission → Sulfasalazin + Azathioprine
+ Pentasa

Tx improve Oligo peripheral ONLY
but Sacroiliitis need Infleximab

Reactive Arthritis

After infection → gastro-enteritis "Diarrhea 2-4 wk"
"Rasheed sandwich"
or
STD infection



Subject:

Note

Diarrhea + L.O.L weakness $\rightarrow$ GBS

Diarrhea + Arthritis "joint pain" $\rightarrow$ Reactive arthritis
or Reiter

Skin manifestation

Keratoderma blennorrhagica "yellow scale in palm & sole

- vesicles painless on glans penis + Buccal erosion $\rightarrow$ after STD

- recerent 10%

Tx $\rightarrow$ Self IPmiking, NSAIDs

Subject:

Goat

- inflamm arthritis caused by deposition of microcrystals of monosodium urate in synovium

- MC DD of monoarthritis

- also called Big toe disease

↳ swollen, red, hot, severe pain
can't even walk

Podagra

According to etiology

1) Acute → 50% big toe

↳ 50% other joints

may affect "knee, ankle, elbow, wrist"

& spare "hip & shoulder" Proximal large joint

attack for 2wks then Pain ↓

Skin over will scale "desquamating"

mainly NO Deformity in acute onset

2) Chronic → 2 attack or more / 12m

mainly in High risk Pt → have risk factor

Poly or Oligo

- severe Damage & destructive

mono "Big toe" 40%

So big toe 90% $\left\{ \begin{array}{l} 50\% \text{ acute} \\ 40\% \text{ chronic} \end{array} \right.$

Subject:

According to Family Hx "new Classification"

1) Non hereditary

Isolated - Pny

mainly Old age "40-60yrs"

2) Juvenile goat nephropathy "Not common"

AD

affect Children

Goat + renal impairment

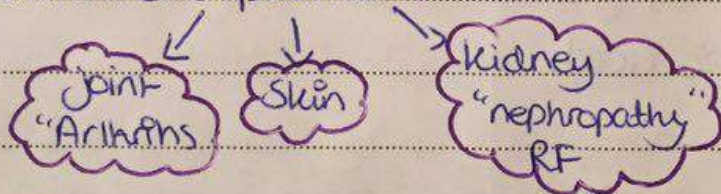
Pathophysiology

(Cell death (DNA) $\rightarrow$ nucleotide acid $\rightarrow$ Purine $\xrightarrow{\text{xanthine oxidase}}$ uric acid)

• normal uric acid $< 7\text{mg/dL}$ $\rightarrow$ excretion normal $\rightarrow$ $\frac{2}{3}$ renal $\frac{1}{3}$ GIT by normal flora

$\uparrow$ risk of goat if $> 7\text{mg/dL}$

$\uparrow$ uric acid $\rightarrow$ deposit in



Hyper-urecemia $> 5\text{mg/dL}$ $\rightarrow$ but severity of goat Not correlate with uric acid level

b/c Pt can have normal uric acid level & acute Podagra b/c all uric acid deposited in big toe

So Normal level doesn't exclude GOAT

Subject:

Predisposing factor

↓ excretion

MC
by renal impairment

↑ Production
by ↑ cell death

• Drugs ⇒ Anti-HTN

Diuretics esp Thiazide

Low dose Aspirin (75-150mg)

Anti-TB = Ethambutol
pyrazinamide

• Diet intake of Purine

• all oncogenic

esp ALL, AML

• Cytotoxic Drugs

• exercise

• Alcohol

• Obesity

• Psoriasis

• Alcohol

• Renal Failure

• Down Syndrome

• Lead Poisoning

• Starvation or Dehydration

↳ b/c lactic acid ↑↑ →

↓ performance of glomerular

to excrete uric acid

Note If Pt Coronary disease + gout → give low dose

Aspirin & Don't stop b/c risk of ischemia more

Dangerous than gout!

but if taken aspirin for other cause → can stop

Subject:

Note Pt HTN & Goat $\rightarrow$ Stop thiazide & Furosemide and change to Ca^+ Channel blocker
but if Pt in $\heartsuit$ Failure $\rightarrow$ most effective drug to Tx Symp are diuretics $\rightarrow$ so Continue even if goat!

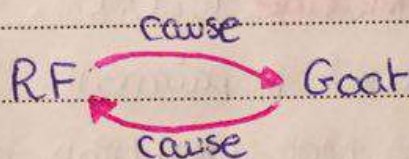
Skin manifestation "Chronic"

Tophi = white painless nodules on extensor surface

from deposition of MSU $\rightarrow$ if Ulcerated = cheesy white material

Painful if infected or Ulcerated

Kidney



- Uric acid Stone

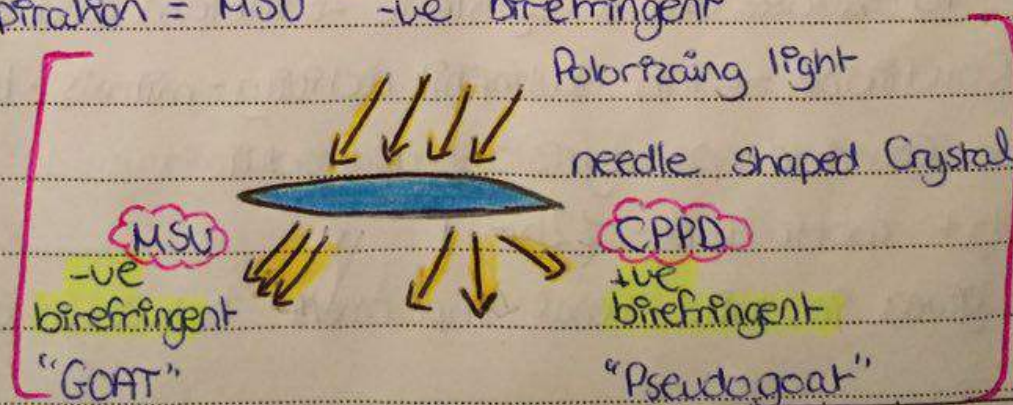
- Tubular interstitial nephritis & RF

Inv - CBC = leukocytosis - anemia of Chronic illness

or reflect to Lymphoproliferative disease (WBC $\uparrow$)

- ESR / CRP $\uparrow$

- Joint Aspiration = MSU "-ve birefringent"



Subject: / /

- Uric acid = High or normal
- RFT $\rightarrow$ renal impairment
- U/S Abdominal $\Rightarrow$ Stone

Tx $\Rightarrow$ wt reduction

$\downarrow$ meat - Stop Alcohol

Prevent Starvation or sever exercise

Stop or $\downarrow$ Drugs cause gout

Acute Tx

1) **NSAID** = **Indomethacine** D.O.C

but lead to renal impairment

So given if Cr Not very high & Close monitor

b/c only for 2 wks

if renal impaired $\rightarrow$ Don't give indomethacine

$\rightarrow$ give steroid - Colchicine - Probenecide

2) **Colchicine**

b/c MSU in joint $\rightarrow$ phagocytosis by neutrophil $\rightarrow$ & release

Peroxidase enz & cytokine $\rightarrow$ inflam and synovitis

Colchicine $\rightarrow$ inh neutrophil activity - mitosis - tubular secretion

so Complete paralysis of neutrophil

but work after 12hr !

given in mild renal impairment but sever avoid it

Subject:

- 3) Cold Compression
- 4) Therapeutic aspiration $\rightarrow$ $\downarrow$ Further reaction
- 5) Intra-articular steroid inj $\rightarrow$ must exclude septic Arthritis
" Steroid in joint can be given 8
 - Local = Intra-articular $\rightarrow$ mono
 - IM - oral - IV $\rightarrow$ Systemic " Poly
- 6) Probenecide $\rightarrow$ $\uparrow$ uric acid excretion
but NOT given in Pt with Hx of renal stone
or even the family Hx of renal stone
- 7) Rasburicase $\rightarrow$ $\uparrow$ uric acid excretion
 - $\hookrightarrow$ Better
 - mainly used in Chronic or prophylaxis

" Allopurinol C/I in 1st attack of acute gout
b/c 1) $\uparrow$ length of acute from 2wk to month
2) when given 1st time transient elevation
of uric acid in 1st 3-4 Days then
 $\downarrow$ uric acid "Paradoxical effect"

Chronic Tx

- 1)- Allopurinol " xanthine oxidase inh "
- 2)- Rasburicase
- 3)- Colchicine

Indication of Allopurinol

- 1) Chronic
- 2) Acute on top of Chronic
- 3) Renal impairment 2ry to goat
- 4) Tophi
- 5) Joint or Bone damage
- 6) Prophylaxis in cytotoxic or leukemia

Note Asymp hyperuricemia Don't Tx unless 8

- 1) +ve family Hx of goat
- 2) sever hyperuricemia " $>9\text{mg/dL}$ "

Pseudo goat

risk factor

- 1- Hyperparathyroidism
- 2- hypo thyroidism
- 3- Hemochromatosis
- 4- Wilson disease
- 5- Any Pt with $\uparrow \text{Ca}^+$

Ca^+ deposition
in Cartilage
"Condro-Calcinosis"

Inv $\Rightarrow$ Aspiration " Ca^+ pyrophosphate crystals"

Tx $\Rightarrow$ As Goat

Subject:

Goat



40-60yr

Big toe

MSU crystals

-ve birefringent

Pseudogout



60-80yrs

hip & Shoulder

CPPD crystals

+ve birefringent

Synovial Aspiration

WBC • < 2000 = normal

- 2000 - 50,000 = Any inflammatory "RA, goat-etc" disorder
- $> 50,000$ = Septic arthritis

Note

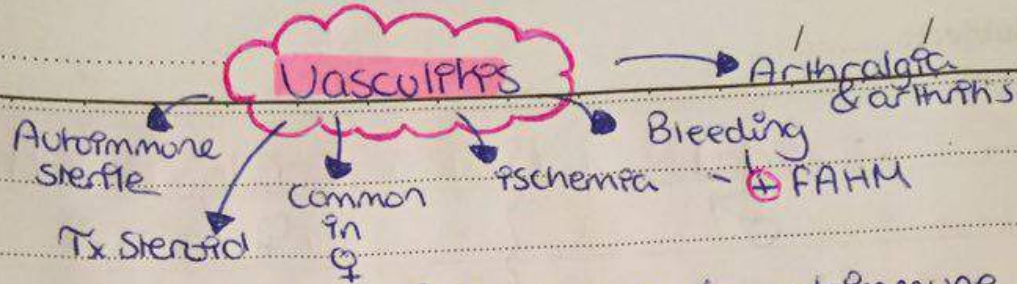
Intra articular steroid $\rightarrow$ severe pain in 1st 3 days
& swelling - hotness - redness

"Paradoxical effect"

same like multiple sclerosis at relapse steroid given
at hospital b/c worsening of symptoms!

Lymphadenopathy in TB $\rightarrow$ when given Anti-TB
 $\rightarrow$ paradoxical enlargement & Painfull

Subject:



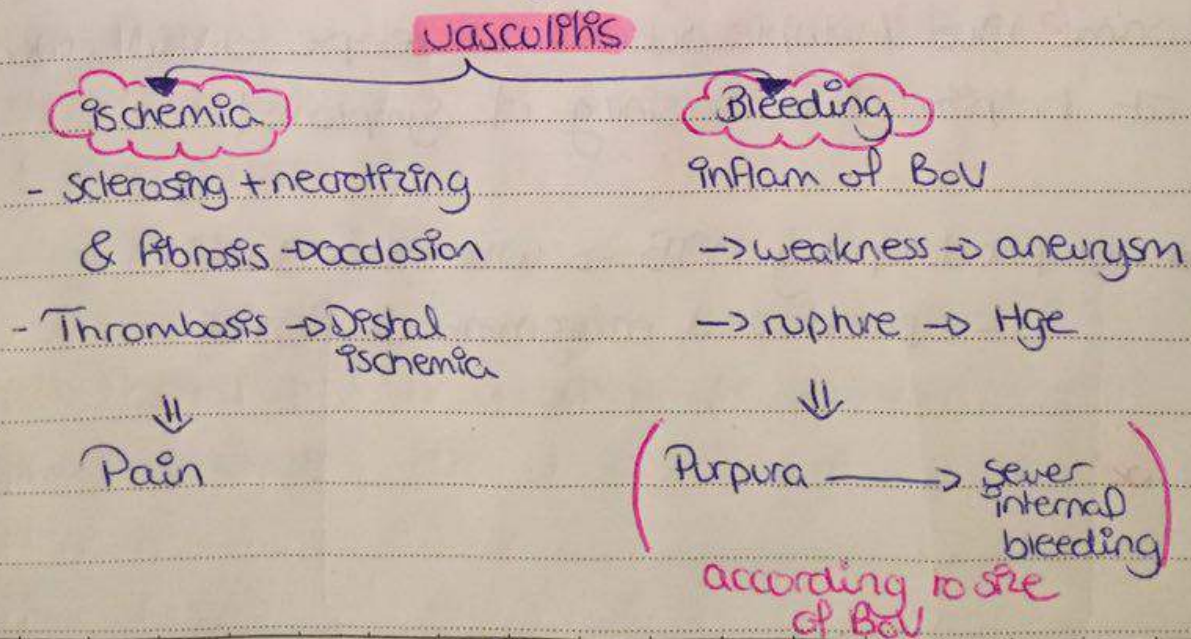
Def : vasculitis is inflam of b.v due to autoimmune mechanism

etiology → (Pry) or (2ry due to)

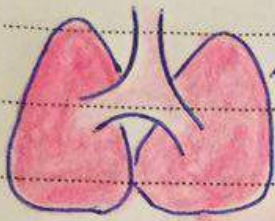
- 1) Infection ex: I.E
- 2) Malignancy → Lymphoma - leukemia - Lung Ca - etc
- 3) Drugs → Anti thyroid = Propylthiouracil
- 4) Inflammatory → Rheumatology esp RA, SLE

According to size of BoV

- Large → Temporal arteritis - Takayasu's
- medium → PAN - Kawasaki
- Small → Wegner granulomatosis - Churg - SLE
microscopic polyangitis



Wegener's granulomatosis = granulomatosis with Polyangitis
ANCA +ve



- URT
- 1 - epistaxis
 - 2 - nasal septal perforation & deviation
b/c necrotizing granuloma
 - 3 - recurrent sinusitis
 - 4 - Otitis media → up to deafness

ENT

- LRT
- 1) inflam of alveolar-capillary memb
→ Dysnea + hemoptysis + cough

- 2) granuloma → multiple masses → often cavity



Glomerulonephritis → hematuria

Dx: lung biopsy or kidney ⇒ Necrotizing granuloma

Tx: Steroid & Cyclophosphamide

Churg-Strauss Syndrome

necrotizing eosinophilic granuloma

→ mast cell + IgE ↑ + Allergy



hemoptysis - Dysnea - Cough

wheeze b/c Allergy

nasal Polyp



• Presipitation retro-orbital vasculitis → Proptosis "Uni"

• Optic neuritis up to Blindness

DD vasculitis
= + Blindness

1) Churg

2) Behcet

3) Giant cell arteritis



Close small Bow

→ renal infarction

Subject:

Note

Asthma + Not respond to Tx DD

- 1) wrong Dx
- 2) Low dose Tx
- 3) Presipitating factor still present
- 4) Churg - Strauss syndrome

Asthma + hemoptysis or Productive Cough DD

- 1) Infection
- 2) vasculitis $\rightarrow$ Churg - Strauss syndrome

Dx $\Rightarrow$ ANCA +ve

Lung biopsy $\rightarrow$ eosinophilia

Tx $\Rightarrow$ Steroid + Cyclophosphamide

Polyarteritis Nodosa

more common σ

$\oplus$ HBV

P
 $\downarrow$
peripheral neuropathy

A
 $\downarrow$
arteritis

N
 $\downarrow$
Nodule
"purple palpable
due to
Cut inflam"

(Lung & Spleen spared)



micro-angiopathic aneurysm

$\hookrightarrow$ small BoV has aneurysm seen by angiography

Peripheral neuropathy due to occlusion of vasa-nervosa

"Mono-neuritis multiplex"

effect Common peroneal N & sciatic N

Subject:

Dx $\Rightarrow$ ANCA +ve

renal biopsy

angiography for aneurysm

Common peroneal N biopsy

Tx $\Rightarrow$ Steroid & Cyclophosphamide

Takayasu's disease

- Young Asian ♀
- effect aorta $\Rightarrow$ LoL ischemia $\Rightarrow$ intermitted Claudication
- Pulseless $\rightarrow$ radio-radial delay
 $\rightarrow$ radio-femoral delay

Behcet's disease

autoimmune inflam of all size BoV

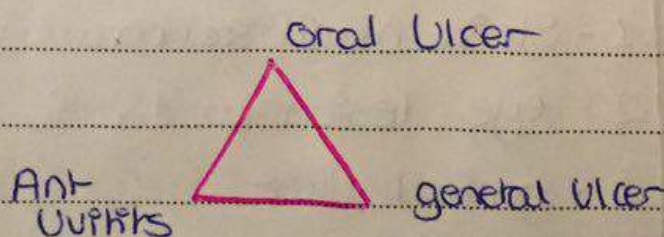
if large BoV $\rightarrow$ Poor Prognosis

epidemiology

♂ middle age

HLA B₅₁ + HLA B₈ $\rightarrow$ not indicate severity

C/P



Subject:

- **Oral Ulcer** → "No oral Ulcer = No Behcet $\geq$ "
↳ recurrent ≥ 3 times / yr + Painfull
- **Eye** → Uveitis & other inflammation
25% become blind :!()
- **Skin** → Erythema nodosum → painfull in leg
↳ Pseudo-folliculitis
↳ Papulopustular lesion

B.v → vasculitis anywhere

- mesenteric → Abdominal Pain
- Aortitis
- Pulm a.] Poor Prognosis
- Coronary artery → IHD

Joint → Arthritis & Arthralgia

CNS → aseptic meningitis - mononeuritis multiplex
encephalitis

Case ♂ / young / Painfull mouth Ulcer / L.L uni swelling
→ by Doplex → DVT → PE

Criteria of Dx [recurrent Painfull oral Ulcer + 2]

- 1 - Skin manifestation
- 2 - eye lesion
- 3 - genital Ulcer
- 4 - +ve Pathergy test

Pathergy test $\rightarrow$ by sterile needle $\rightarrow$ skin injury



Not Specific

$\downarrow$
Normal
(healing)

$\downarrow$
Bechet
 $\downarrow$
Pustule
"Sterile Pus"

[DD +ve in Psoriasis]
SLE
Leprosy
Syphilis

Tx • Steroid

• Thalidomide

• Colchicine

] Not Protect eye

• Immune supp] Protect eye from blindness

Poor Prognosis $\rightarrow$ young σ^7 / Large BoV ex Pulm artery

Polymyalgia Rheumatica

Disease of OLD age >60 yrs $\text{♀} > \text{♂}$

Presentation $\rightarrow$ morning stiffness + Pain in Proximal ms
UL $>$ LL

But

[No weakness
No wasting
No skin rash
CK / LDH / EMG Normal]

Subject:

Can't assess ms power b/c Pain & Stiffness

INV ESR ↑↑

& b/c ass with Temporal arteritis

→ significantly ↑↑

Tx Steroid Low dose (20 mg Prednisolone / day)

but if • Headache "Temporal + Throbbing + Unilat"

• Jaw Claudication

• Visual disturbance

• Tongue Pain

Think Giant cell arteritis



→ even if HTN or DM

give steroid high dose (60-70 mg / day)

before any inv b/c if late ⇒ BLIND

so (DONT WAIT GIVE STEROID)



Tx before 2wks = reversible

if after = irreversible blindness

Note 70mg if Pt came with one presentation ex: headache

but if all 4 "headache - jaw claudication - et"

give I.v methylprednisolone 1g for 3 days

Subject:

Dx Giant cell arteritis → Temporal artery biopsy

Biopsy +ve 85%

but vasculitis is patchy → so normal areas

so if -ve doesn't exclude → repeat biopsy

Fibromyalgia → to exclude serious cause
→ Psychological female
→ Pain with No organic cause

> 11 bony prominences Pain

⊕ Irritable bowel syndrome

⊕ Depression

⊕ Anxiety

• All inv are normal → Dx by excluding

Tx → reassurance

CBT

TCA → D.O.C "Amitriptyline"

PT risk for → Peptic Ulcer + RF from NSAID misuse
→ Cushing → from steroid wrongly Dx

Subject:

Sepsis Arthritis

Acute inflammation of joint due to infection

Organism

- Staph aureus (MCC)
- Salmonella (sickle cell)
- Neisseria gonorrhea (H/O STD)
 - skin lesion
 - mono Arthritis + Poly Arthralgia

Spread → Blood "Children" = Hip joint
→ Trauma "Adult" = Knee joint

INV

CBC = anemia - leukocytosis - ESR & CRP ↑

x-ray = early always normal

Late = Damaged

Joint Aspiration ⇒ Dx "WBC > 50,000"

Tx rapid destructive → Tx early before deformity

3A → Antipyretic

→ Analgesic + rest

→ Antibiotic ⇒ Flucloxacillin IV 2wk "at hospital"

then oral for 6-12wk

if Pt allergy to B-lactam → take Clindamycin

- IF PUS → must Drainage

Hx of Rheumatology

- 1) Hair loss $\rightarrow$ if +ve $\begin{cases} \rightarrow$ reversible or NOT
 $\rightarrow$ Patchy or total
- 2) Skin rash $\rightarrow$ color
 - $\rightarrow$ Painfull or NOT
 - $\rightarrow$ raised or Flat
 - $\rightarrow$ Blenshing on pressure
 - $\rightarrow$ Photo sensitive or NOT
- 3) Red eye / gritty sensation + Dry mouth
- 4) Mouth + nasal Ulcer $\rightarrow$ Painfull or Not
- 5) Genital Ulcer $\rightarrow$ recerent or Not & how many?
- 6) Raynood Phenomena $\rightarrow$ Pain in Cold & Colors
- 7) Joint Pain or Swelling $\rightarrow$ num + size + deformity
 - $\rightarrow$ morning stiffness
- 8) Difficult in joint movement
- 9) Clot $\rightarrow$ Previous thrombosis + ♀ reccurant Abortion or Family Hx

«تَمَّ بِحَمْدِ اللَّهِ»